

List of Claims

1. (previously presented) A leak diagnosis component for a fuel system of an engine comprising:

a junction block with a plurality of inlets and at least one outlet disposed in said junction block and opening through an external surface of said junction block;

said inlets being fluidly connected to said at least one outlet via a plurality of leak paths disposed in said junction block, and each of said inlets being configured for connection to a different leak line of a fuel system for an engine;

a plurality of leak collection cavities disposed in said junction block, and each of said leak paths being fluidly connected to one of the plurality of leak collection cavities; and

a plurality of leak diagnostic ports disposed in said junction block, and each one of the plurality of leak diagnostic ports extending between a respective one of said leak collection cavities and said external surface of said junction block.

2. (currently amended) The component of claim 1 including a plurality of plugs removably attached to said junction block and closing a different ones of said leak diagnostic ports.

3. (original) The component of claim 2 including a wet sensor attached to said junction block and being operably positioned to sense a presence of liquid in said at least one outlet.

4. (original) The component of claim 3 wherein said at least one outlet is a single outlet.

5. (original) The component of claim 4 wherein said external surface includes a top side; and

said inlets opening through said external surface at a location closer to said top side than a location where said single outlet opens through said external surface.

6. (original) The component of claim 5 wherein said external surface includes a bottom side; and

said leak diagnostic ports opening through said external surface at a location closer to said bottom side than a location where said inlets open through said external surface.

7. (original) The component of claim 4 wherein said junction block has three leak inlets, three leak collection cavities, and three leak diagnostic ports.

8. (original) The component of claim 3 wherein said junction block has six leak inlets, six leak collection cavities, six leak diagnostic ports, and includes a separate return fuel manifold disposed therein.

9-12. (cancelled)

13. (currently amended) The fuel system of claim 12-A fuel system comprising:
a plurality of high pressure fuel spaces;
a plurality of leak lines operably connected to capture fuel leaking from different
ones of said high pressure fuel spaces;
each one of a plurality of leak diagnostic ports being fluidly connected to a
different one of said leak lines, and the plurality of leak diagnostic ports being operably
positioned to evacuate fuel from said leak lines;
a consolidated leak line with one end fluidly connected to said leak lines;
a wet sensor operably connected to said consolidated leak line; and
wherein said one end of said consolidated leak line, ~~said leak collection cavities,~~
said leak diagnostic ports and one end of each of said leak lines being disposed in a leak
diagnostic junction block.

14. (original) The fuel system of claim 13 wherein said plurality of high pressure spaces include at least one common rail and a pump outlet.

15. (original) The fuel system of claim 14 wherein said leak diagnostic junction block has three inlets, and one of said three inlets is fluidly connected to a pump outlet leak line, a second of said three inlets is fluidly connected to a first common rail leak line, and a third of said three inlets is fluidly connected to a second common rail leak line.

16. (original) The fuel system of claim 14 wherein said leak diagnostic junction block has six leak inlets and includes a separate return fuel manifold.

17. (original) A method of diagnosing a leak location in a fuel system for an engine, comprising the steps of:

capturing fuel from a leak originating from one of a plurality of different high pressure spaces into one of a plurality of separate leak lines;

opening different leak diagnostic ports until fuel is evacuated from one of the leak lines; and

identifying which one of the high pressure spaces is associated with the one of the leak lines.

18. (original) The method of claim 17 including a step of detecting a leak in a consolidated leak line prior to the opening step.

19. (original) The method of claim 18 including a step of fluidly positioning a leak collection cavity for each of the leak lines upstream from a respective leak diagnostic port for that leak line.

20. (original) The method of claim 19 including a step of locating each of the leak diagnostic ports to open at a single surface adjacent the engine.